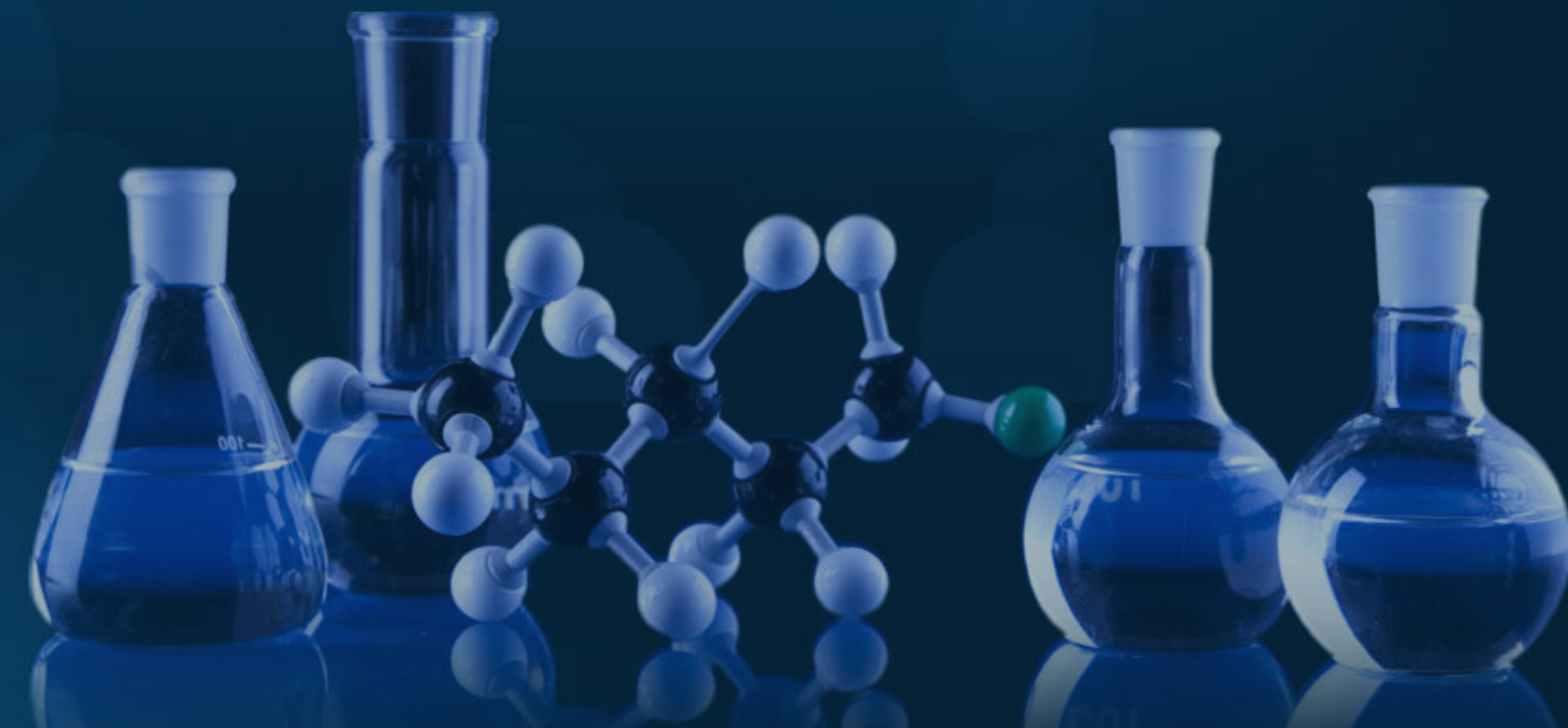




ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

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Hypoglycemia

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Hypoglycemia

Hypoglycemia may seem like a common topic. However, it is vitally important and often confusing. Many nutritional factors as well as the oxidation rate may contribute to the symptoms of hypoglycemia.

Definitions

Confusion occurs regarding the definition of hypoglycemia. The standard medical definition is a serum glucose level of less than about 65 mg/ml. However, many patients undergoing a glucose tolerance test experience symptoms of hypoglycemia in spite of 'normal' serum glucose levels.

This occurs because in reality hypoglycemia refers to symptoms of ***low energy production at the cellular level***. A better description of the syndrome would be ***a sugar and carbohydrate intolerance or imbalance***.

Symptoms Of Hypoglycemia

Most symptoms of hypoglycemia involve the central nervous system. The brain is completely dependent upon circulating glucose as a fuel. It has no way to store glucose, as do the muscles.

Cellular energy starvation produces symptoms of fatigue, anxiety, confusion, tremors, irritability, fainting, headache, hunger and even psychosis or violence. Generalized fatigue and malaise may also occur.

Slow Oxidizer Hypoglycemia

Dr. Paul Eck and Dr. George Watson found that slow and fast oxidizers experience hypoglycemia for different reasons. Slow oxidizers often have a chronic low blood sugar level. This is due to low adrenal and thyroid gland activity.

The adrenal hormones cortisone and cortisol raise serum glucose levels by converting amino acids and fats into glucose. Thyroid hormone is also required for the burning of glucose at the cellular level.

As these hormones are low in the slow oxidizer, glucose levels tend to be low. In simple terms, the metabolic 'fire' is sluggish in slow oxidizers and this can contribute to chronic hypoglycemic symptoms.

Slow oxidizers benefit from eating protein because it helps stabilize their adrenal and thyroid gland activity and therefore stabilize their glucose levels.

Slow oxidizers often crave sweets, especially if their diets are low in protein. This may be an attempt to compensate for their low blood sugar levels.

Fast Oxidizer Hypoglycemia

A very different situation occurs in fast oxidizers. In these individuals, the oxidation, or burning processes is accelerated. Excessive conversion of glycogen to glucose occurs. This results in low glycogen reserves and hypoglycemia when an emergency need for glucose arises.

Fast oxidizers can experience severe reactive hypoglycemia, especially if they do not eat enough, or if they eat sweets. Like a large engine that burns fuel quickly, they can literally and suddenly run out of fuel. Their glycogen reserves may be too low to handle their need for glucose and they may develop severe symptoms.

Fast oxidizers are not helped by protein in the diet, as much as by fats. Fats digest and burn slowly. They also provide more calories per gram, helping to avoid the fuel-deficiency situation. Fast oxidizers tend to prefer fatty foods, such as steak and potatoes with sour cream. On light fare, they may become very hungry within an hour or two of eating.

Minerals, Vitamins And Hypoglycemia

Cellular energy production requires not only an adequate supply of glucose, but also many other nutrients that act as intermediaries and catalysts in the oxidation process.

These nutrients include:

- **potassium** is needed to sensitize the tissues to thyroid hormone.
- **magnesium** is needed for several enzymes involved in energy production.
- **excessive tissue calcium and magnesium** block the transport of glucose into the cells.
- **manganese** is needed for the thyroid gland and for energy production in the mitochondria of the cells.
- **zinc** is needed to produce insulin, to release insulin and to prolong the action of insulin.
- **chromium** is needed to help insulin attach to cell walls so that glucose can pass into the cells.
- **copper and iron** are needed in the electron transport system, where most energy is produced in the cells.
- several **B-complex vitamins** are needed in the energy cycles.
- anti-oxidants such as **selenium and vitamins C and E** are needed to protect the delicate enzyme systems used to produce cellular energy.
- **vanadium** also plays a role in glucose regulation.

Hair analysis levels of these minerals may be normal when symptoms occur. For this reason, supplementation of these minerals is often recommended on hair analysis programs even if the levels appear normal.

Hair Analysis Indicators Of Hypoglycemia

Dr. Eck found the following indicators on a hair analysis are associated with a trend for impaired sugar and carbohydrate intolerance:

- Calcium/magnesium ratio less than 3.3:1 or greater than 10:1,
- Sodium/potassium ratio less than 2.5:1, Potassium level less than 3 mg%,
- Low chromium, manganese or zinc level.

The presence of toxic metals such as cadmium, lead or copper may interfere with vital minerals and contribute to hypoglycemia.

Emotions And Hypoglycemia

In some instances, excessive emotions, especially pretence, play a role in hypoglycemia.

Conclusion

This short bulletin summarizes the many facets of hypoglycemia. Through hair mineral analysis and scientifically designed nutrition programs, even most stubborn cases of hypoglycemia can improve.

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